REMARKS

Reconsideration of the present application in view of the comments made herein is respectfully requested. Claims 10-21 remain pending in this application. Independent claim 15, and claims that depend from it, namely claims 10, 12, 14, 16-18, and 20-21 stand rejected under 35 U.S.C. §102 (e) as anticipated by Tomioka, U.S. Patent Publication no. 2001/0000733. Claim 12 stands rejected under 35 U.S.C. §102 (e) as unpatentable over Tomioka in combination with Kawai (U.S. Patent no. 6,239,033). The applicant observes that the present application is entitled to claim priority from Japanese Application no. 91963/2000 filed March 29, 2000. The March 29, 2000 priority date is earlier in time than the effective date of Tomioka et al. as a reference. Submitted herewith is a certified translation of Japanese application no. 91963/2000. The certified copy of the priority application was filed on May 7, 2001. Accordingly, it is respectfully submitted that the Applicants are entitled to rely upon their priority date in order to antedate Tomioka et al., and accordingly, these rejections are traversed.

Claims 10-11, 13-21 stand rejected as anticipated under U.S.C. § 102 (e) as anticipated by Kneissel et al. in combination with Kawai et al[1].

In the applicants' view, the combined teachings of Kneissel et al. in view of Kawai et al. does not suggest the applicants' invention. In fact, it appears that the examiner is reading the claimed invention in an unreasonably broad manner. Independent claim 15 recites that an "upper surface of the nitrogen based semiconductor layer [is] completely covered with the protection layer while the hetero-substrate is being etched". It is apparent that the protecting layer does what its name indicates --it protects the nitrogen-based

[1] As understood by the applicant, since the rejection is based upon the combined teachings of the two references, the rejection actually lies under 35 U.S.C. § 103(a).

semiconductor layer during the etching step, which is carried out in the highly degradative, high temperature acid bath, in which the nitrogen-containing protective semiconductor layer is separated form the hetero-substrate. Despite the examiner's assertion to the contrary, the metal substrate 1138 and Ti/Au soldering material shown and described in Kneissel's process, which employs laser irradiation to remove the substrate layer, are not protective layers. These elements are not there in order to provide a barrier to the degradative effects of a high temperature acid bath. Also, because the metal layers are on the side *opposite from* the side that is irradiated with laser light (see Fig. 14b.), they do not function as protective layers. Accordingly, Kneissel et al. cannot be said to suggest a protective layer.

Further, Kneissel et al. discloses, in fig 14c, a method for removing a sapphire substrate 215 from a semiconductor membrane 1110. A thin GaN layer 1130 is interposed as an interface between the sapphire substrate 215 and the semiconductor membrane 1110, as indicated in column 7, lines 54 to 60. Under the circumstances, ultraviolet excimer laser light 1120 is irradiated onto the interface through the sapphire substrate 215, as shown in Fig. 14b, and the interface between the sapphire substrate 215 and the substrate membrane 1110 is decomposed into Ga metal and N_2, as explicitly described in column 7, lines 61 to 65. This shows that the ultraviolet excimer laser light 1120 is transmitted through the sapphire substrate 215 to the GaN layer 1130 to decompose the same.

In consequence, the sapphire substrate 215 is lifted off from the semiconductor membrane 1110 by heating a bonded laser structure 1410 to about 30° C which is the melting point for Ga metal (column 11, lines 1 to 4).

From this, it is readily understood that the GaN layer 1130 never serves to protect the semiconductor membrane 1110 from being dissolved by an etching solution but only to support the semiconductor membrane 1110.

Moreover, Kneissel et al. only teaches mechanical removal of the sapphire substrate 215 from the semiconductor membrane 1110. In other words, no disclosure is made in Kneissel et al. about chemically dissolving the sapphire substrate 215 from the semiconductor membrane 1110. Accordingly, Kneissel et al. does not teach a chemical protection layer between the sapphire substrate 215 and the semiconductor membrane 1110.

Taking the above into consideration, we believe that the present invention is patentable over Kneissel et al. taken alone or in view of the combination of Kneissel et al. and Kawai.

Wherefore, based upon the foregoing, it is respectfully submitted that the present case is in condition for allowance, and an early reply to this paper is respectfully requested.

Respectfully submitted,

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